

Fall 2015

Discover, No. 2, Fall 2015

University of North Alabama Undergraduate Research

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DISCOVER



Scientific inquiry

Nursing practice issues are focus of upcoming event

Students enrolled in NU 406 (Research in Nursing) have conducted systematic reviews of nursing literature about various nursing practice issues. Please join us as they present their findings and conclusions to support evidence-based practice.

Date: November 17 & 19, 2015

Time: 2:00 p.m. to 4:00 p.m. (each day)

Place: Stevens Hall Auditorium, College of Nursing

See the schedule of presentations on Page 5—and for more information, contact Dr. Tera Kirkman at trkirkman@una.edu, or telephone (256) 765-4382.



Undergraduate research leads to professional success

As a UNA undergraduate studying Health, Physical Education and Recreation, Rachel Kerstiens accomplished something that would be the envy of many professionals in her field: she had a paper published in the peer-reviewed **International Journal of Exercise Science**.

Rachel's paper focused on exercise as an

intervention and treatment modality for individuals with Down Syndrome, and was written as part of her work in Dr. Matt Green's HPE 353w (Exercise Physiology) course.

Dr. Green said, "In my estimation it is uncommon for undergraduate students to

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Inside this issue



Find out what's happening in the QEP office this semester. Dr. Lisa Keys-Mathews provides an update.

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Physics and Earth Science student Nealey Sims spent the summer in Alaska as an IRIS intern.

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On the Cover

Lauren Faris and fellow nursing students participated in Mock Interviews on October 29. Students who completed their nursing research last semester will prepare poster presentations this semester. *UNA photo by Shannon Wells.*

Discover is a publication of the QEP office, 111 Wesleyan Hall, Box 5167, University of North Alabama, Florence, Alabama

*"What we find changes who we become."
—Peter Morville*

QEP CORNER

The QEP Office has been very busy this semester hosting two professional development opportunities for faculty, staff, and students; helping to sponsor the Investiture Research Symposium; and organizing an internal research grant opportunity that funded 18 faculty-student teams. Thanks to everyone who participated.

Summer 2015 QEP data should be in by this time – if you have not submitted your data, please do so as quickly as possible. If you questions about Fall 2015 data collection, let us know. The deadline for Fall data submission is December 5.

The newly created “Collaborative Space” in the basement of Collier Library will be available for use by mid-November. Information on how to reserve or drop-in to



the space will be forthcoming. Stop by the basement and peek in the window – it is going to be an awesome and functional space available to student and faculty researchers and departmental or group meetings.

In addition to collaboration space, the room will be home to two 3-D printers and a 3-D scanner.

And welcome to BJ Wilson, who joined the QEP Office part-time in July – BJ retired in June but found it impossible to stay away from UNA!

– Lisa Keys-Mathews, Ph.D., GISP
Director, Quality Enhancement Plan
Professor, Department of Geography

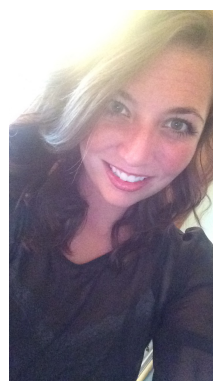
HAVE YOU JOINED CUR?

The mission of the Council on Undergraduate Research (CUR) is "to support and promote high-quality undergraduate student-faculty collaborative research and scholarship." UNA holds enhanced institutional membership in this non-profit educational association, which means that all students, faculty, staff, and administrators in the UNA community can join as individual members at no additional cost.

To decide if CUR is right for you, visit their website <http://www.cur.org> for more information. To join, go to the CUR website and submit your contact information on the Individual Membership Online Application. (“University of North Alabama” will be on the drop down list of institutions.)

RESEARCH SPOTLIGHT

Senior marketing major/innovation



engineering minor Abigail Holbert is currently researching the positive effects of student incubators and generators on collegiate campuses and their effect on the respective communities. Abigail said, “I want to prove that implementing student start-up

generators improves society by encouraging innovation, growth, and entrepreneurship, which leads to increased profit and advantages within a community. My end goal is to successfully fund more generators in the Southeast region while also increasing funds for our own UNA student incubator.” Abigail is from Meridianville, and after graduation in May she hopes to attend graduate school at UNA beginning Fall 2016 semester.

(Professional Success, Continued from page 1)

Rachel Kerstiens is pictured in the Pediatrics Lab at University of South Alabama on her first day as an Occupational Therapy graduate student.

publish papers and it is essentially unheard of to be lead author on a publication in a journal of international scope. This accomplishment sets Rachel apart and truly is a testament to her dedication to her education and career.”

Rachel had an overall GPA of 3.98 upon finishing her studies at UNA in the Spring of 2015, and her hard work paid off when applying to graduate schools to study Occupational Therapy – she applied to five schools and was granted five interviews, which is quite an accomplishment in that highly competitive field. She accepted an offer from the University of South Alabama and is currently completing her first year there.

She says she is thankful for her experience in research as an undergraduate.

“My research as an undergraduate provided me with experiences and skills that I am able to utilize in occupational therapy school. For example, we are required to do research during our time in occupational therapy school and having previous experience in this area is very helpful,” said Rachel. “I do think it helped me get into graduate school because during my interview to get in, I was asked specific questions about my research.”

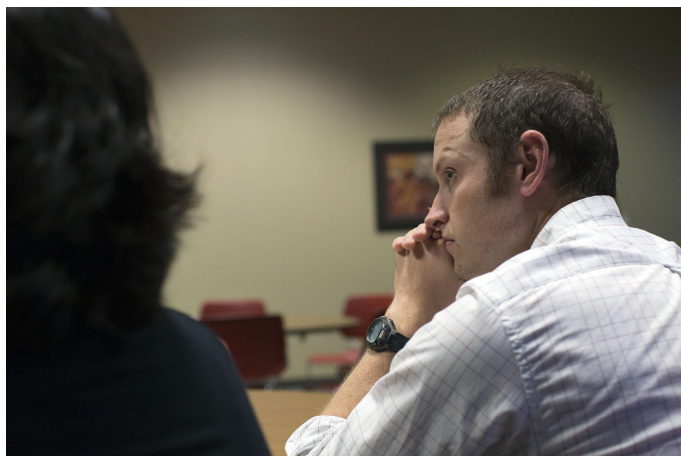
Rachel is grateful to her mentors at UNA. “Dr. Green encouraged me to get the most out of my education during my undergraduate

career. He consistently made an effort to let me know of opportunities to further my education around campus and always made time to answer my questions and give me advice. I am so very grateful for all of the time he spent helping me publish my paper. I would not have accomplished nearly enough during my time at UNA if he had not pushed me. He was a great mentor.”

Rachel is also quick to compliment the rest of the department. “I am so thankful to the HPER department at UNA for providing me with a great educational foundation to start occupational therapy school. So much of what I learned there has carried over into what I am learning now in my master’s program. All of the faculty in the HPER department encouraged their students to participate in research and would take time out of their day to help students.”

Rachel expects to graduate from South Alabama in December 2017. She hopes to work in the trauma setting of occupational therapy, but she is not ruling out any possibilities at the moment. “One of the reasons I love occupational therapy is that it is such a versatile career that would allow me to work anywhere from hand therapy to early intervention for children with mental disabilities. During my time at South Alabama I will get to experience many of these settings during our field work – so, I might change my mind after I see them all!”

Best Practices in Research Symposium



Clockwise from top left: Professor Eric O'Neal; students Chellie Hogan and Matt Ferrara; Professor Larry Bates; and presenter Jessie Moore, from Elon University.

The symposium on Oct. 13 had two tracks; one that focused on faculty professional development and one that focused on student professional development. Approximately 70 faculty and students attended.

Best Practices in Research Symposium *(Continued)*



Clockwise from top left: UNA Presenters Dr. James Jerkins; Professor Mel Blake; and Professor Cindy Stenger. Presentation materials from the symposium are available online at <https://www.una.edu/ug-research/resources.html>.

College of Nursing Research Presentations

Stevens Hall Auditorium

November 17 & 19, 2 p.m. – 4 p.m.

Tuesday, November 17th

- 1) **Group G: Factors Associated with Heart Failure Readmission Rates**
- 2) **Group C: The Effects of Endocrine Disruptors on Early Onset Puberty**
- 3) **Group B: Therapeutic Hypothermia after Cardiac Arrest: Its Effect on Neurologic Function**
- 4) **Group D: The Treatment of Patients with Postpartum Hemorrhage**

Thursday, November 19th

- 1) **Group A: Determining the Effects of Dietary Treatments in Patients with GLUT1 Deficiency Syndrome**
- 2) **Group H: Educational Strategies and Cultural Issues on Birth Spacing**
- 3) **Group E: Birth Defects among Multiples Conceived Via Assisted Reproductive Technology**
- 4) **Group I: The Effects of Acupressure on Cancer Related Fatigue**
- 5) **Group F: The Influence of Genetic Testing on Parental Decision Making for Pregnancy Outcomes**

EDUCATION STUDENT RESEARCHERS ARE 'DOERS'

The College of Education is developing a tradition of strong undergraduate researchers, and in light of that a new recognized student organization (RSO) has been created. The Departments of Education Research Students (DOERS) was created to recognize the desire of pre-service teachers to conduct research that is relevant to their field. DOERS is an



organization that hopes to recruit more undergraduate students for research as well as act as a liaison with faculty members. Many undergraduate students are unaware of faculty members' research projects and interests, so DOERS plans to act as a conduit where students can find faculty mentors with similar interests. Dr. Gary Padgett, an assistant professor in Secondary Education, is the sponsor of this RSO which now includes both elementary and secondary education majors. Active members such as Dalia Gerardo-Rendon, Mariann Jahraus, and Taylor Williams and have already developed research partnerships and attended undergraduate research related workshops (pictured here at the recent Best Practices Symposium sponsored by QEP).

'EARTHSHAKING' DATA IS FOCUS OF IRIS INTERNSHIP

Physics and Earth Science student Nealey Sims was selected as an intern for the Incorporated Research Institutions for Seismology (IRIS) Consortium for Summer 2015. This prestigious program is a paid, National Science Foundation funded research experience for undergraduates that provide interns with the opportunity to conduct exciting research with state of the art geophysical data and leading researchers at IRIS institutions. Nealey's internship was hosted at the Geophysical Institute at the University of Alaska Fairbanks (UAF). While there, Nealey assisted Dr. Doug Christensen and Dr. Carl Tape of UAF and Dr. Melissa M. Driskell of UNA with the installation of an array of 30 seismometers around the Kenai Peninsula of Alaska and across Redoubt Volcano. The data collected by this experiment will be used to calculate seismic structure and shear wave splitting beneath the Alaskan subduction zone. Additionally, she began research on the flow of the mantle beneath Uturuncu Volcano, Bolivia. This research will provide insight into what is causing present deformation as well as what activity can be expected from Uturuncu in the future. The research is being completed this fall and will be presented at the 2015 American Geophysical Union Fall Meeting in San Francisco, Calif.



FROM AZTEC RUINS TO TAX RETURNS

UNA INQUIRY COVERS A WIDE RANGE OF INTEREST
HONORS PROGRAM STUDENT RESEARCH 2014-2015 TO PRESENT

Katie Goldsmith

An Introduction to Supplemental Instructions: SI and the Beginning Stages of Research of UNA's Own SI Program, Cynthia Stenger, Department of Mathematics

Whitney Johnson

Scripted Versus Non Scripted Lessons, Robert Young, Department of Elementary Education

Matthew Davenport

Dialkoxynaphthalene Naphthalenediimide: Linked Amino Acids Complexes, Amanda Coffman, Department of Chemistry

Christian Clark

The Drum Set and How it has Influenced the Evolution of Music from the Swing Era to Today, Tracy Wiggins, Department of Music

Hailey Boeck

What Does Not Kill You Makes You Stronger: Cross Tolerance in the Upside-Down Jellyfish Cassiopeas Samachana, Isaac Sleadd, Department of Biology

Mary Elise Cofield

Shoals Earth Month Inc. - A Website Development Project

Jessica Hept

French and American Legal Systems: A Comparative Analysis, Keith Lindley, Department of Foreign Languages

Jake Harrington

The SVRI at UNA: A Cost Benefit Analysis, Tanja Blackstone, Department of Economics and Finance

Mackenzie Kimbrough

Nashville Consignment Shop, a Business Plan: Location, Plan, and Marketing, Bruce Gordon, Department of Marketing and Management

Christian Bayens

An Analysis of R-Line Photoluminescence of Emeralds from Colombia, Zambia, and

Afghanistan, Brian Thompson, Department of Physics and Earth Science

Ashley Gabaldon

Developing a Marketing Plan for the George Lindsey Film Festival, Cynthia Burkhead, Department of English

Hannah Hicks

New Developments in Technology and Education, Pamela Chaney, Department of Elementary Education

Savannah Mckinney

Start Up Film Company: a Proposal, Beth Garfrerick, Department of Communications

Katelyn Jarrell Spidel

Violence and the US Military Presence in Africa, Francis Koti, Department of Geography

Hannah Aycock

Is There a Relationship Between College Majors and Hobbies?, Corey Cagle, Department of Accounting

Rebecca Hardiman

The Public's Understanding of Tax Returns, Corey Cagle, Department of Accounting

Dillon Green

Aztec Ruins: Considering Pictography as Image and Text, Scott Infanger, Department of Foreign Languages

Abigail Hellem

UNA MBA Students and Their Learning Preferences, Bob Armstrong, Department of Management and Marketing

Kyle Black

Novel Synthetic Plan for Matualevic Acids, Frank Diaz, Department of Chemistry

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HONORS PROGRAM STUDENT RESEARCH, *Continued*

Josh Kidd

Photoluminescence Spectroscopy of Emeralds,
Brian Thompson, Department of Physics and Earth
Science

Caroline Thomas

**Comparing the Levels of FKBP5 and FKBP4 in
Different Cell Lines,** Tina Hubler, Department of
Biology

Anna Goggins

**Evaluation of the Use of Stimulants Within the
Student Nursing Population,** Willard Brewer,
Department of Nursing

Alyssa Primeau

**A Full Scale All-Hazards Disaster Simulation
Project,** Wayne Bergeron, Department of Politics,
Justice, and Law

Gwyn Foster

**Does Ulnar Collateral Ligament Surgery have
Any Impact on Pitching Performance?** Matt Green,
Department of Health, Physical Education, and
Recreation

Kali Daniel

The Effects of Religion on Societal Views of Sex,
Beth A. Garfrerick, Department of Communications

Marcela Villagrana

**The Effectiveness of Distance Learning Courses
on Early Scholars: Weakness and Strengths of the
Early Scholar Program,** Alejandra Alvarado-
Brizuela, Department of Foreign Languages

Mark Tate

**Factors That May Hinder or Help the
Establishment of Needle Exchange Programs in
American Cities,** N. Alex Aguado, Department of
Politics, Justice, and Law

Audrey McGee

**Using Applied Mathematics and Biology to
Assess the Re-Invasion of Sea Otters to
California's Coast,** Jillian C. Stupiansky,
Department of Mathematics

Teena Patel

**How Do Contemporary Western Novels Depict
Indian Culture for Cross-Cultural Audiences?,**

Cheryl Price, Department of English

Alexandra Priester

**Accessing the Possibility of a Fear Response
Among Religious Fundamentalists to
Religiously Taboo Words Via a Visual Dot-
Probe Task,** Larry Bates, Department of
Psychology

Carrie Reed

**Contemporary Political Philosophy: Structures,
Theoretical Limitations, and Normative
Foundations of Recognitive Justice,** Matt
Fitzsimmons, Department of History

Thomas Rhodes

Two Room Reservation Systems: a User Study,
Jason S. Watson, Department of Computer
Science and Information Systems

Andrea Shipley

**Comparing the WDF rate and GPA for Students
in Courses with Supplemental Instruction,**
Cynthia L. Stenger, Department of Mathematics

Abigail Holbert

**Positive effects of student incubators and
generators on collegiate campuses and their
affect on the respective communities,** Santanu
Borah, Department of Management and
Marketing*Save the date!*

APRIL 19-21, 2016

RESEARCH
DAY 2016

For more information, visit our website at
[https://una.edu/ug-research/research-
day-2016.html](https://una.edu/ug-research/research-day-2016.html), call the office at 256-765-
4640, or e-mail qep@una.edu.